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Special Feature

Enduring Freedom and Iraqi Freedom demonstrated the enormous capacity of the US military to establish forward locations for expeditionary operations. These operations highlighted significant areas where the United States can enhance its ability to project forces.

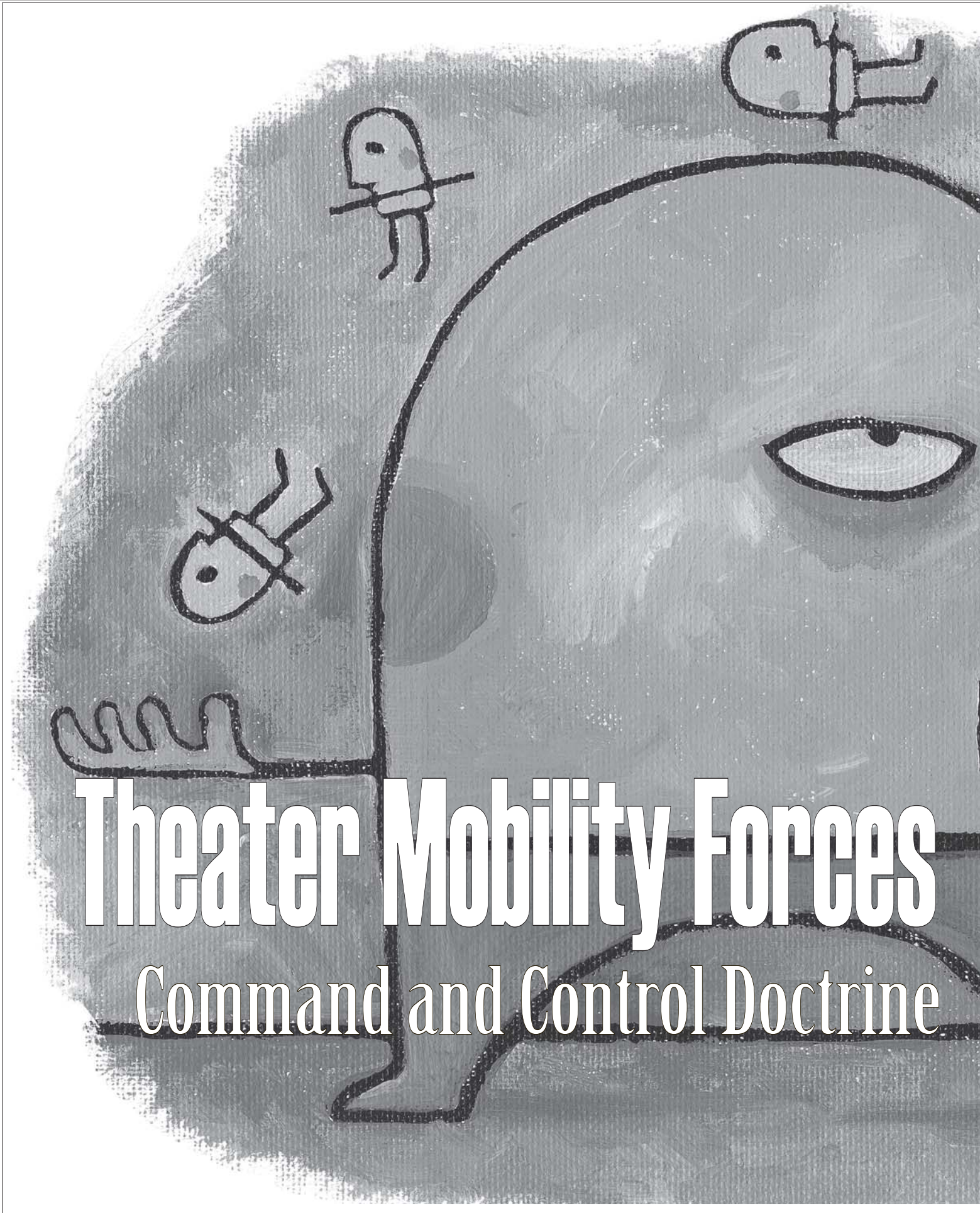
mobility and forward presence

logistics

Theater Mobility Forces: Command and Control Doctrine

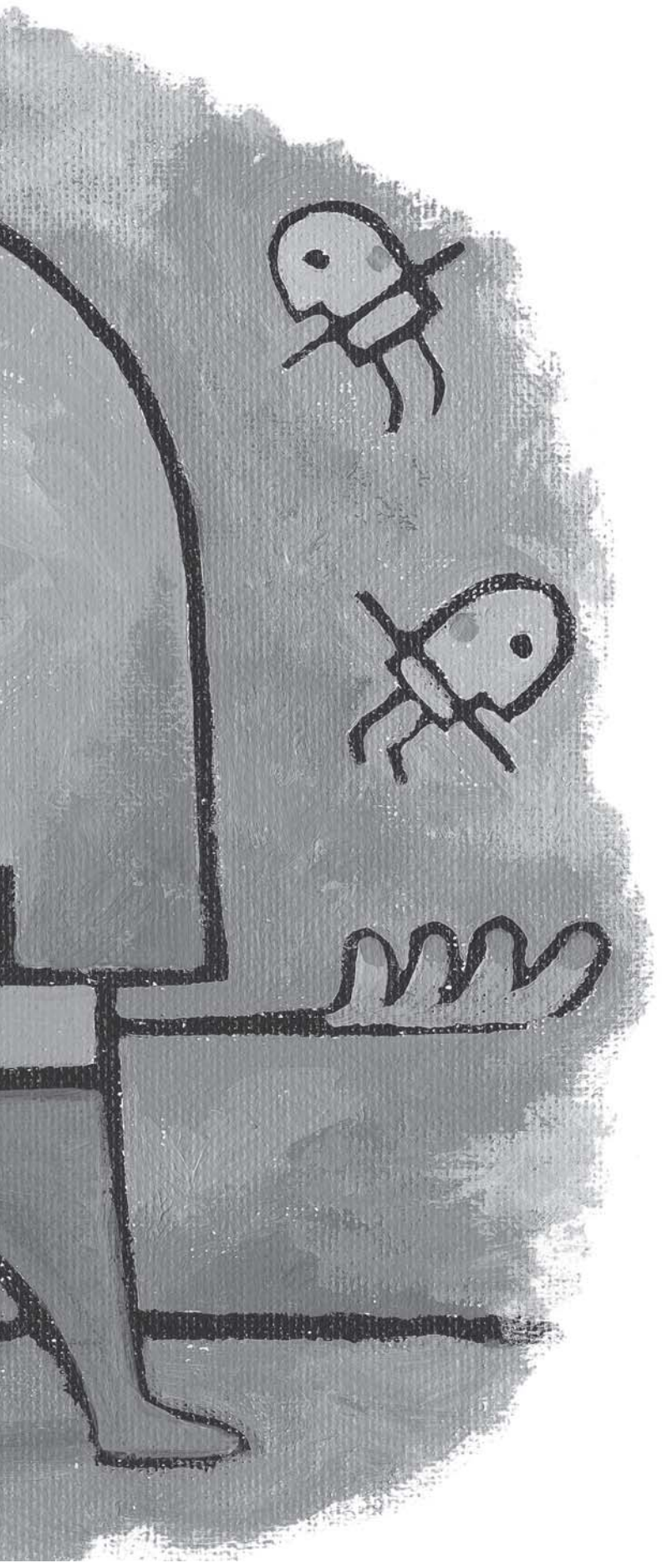
Retooling Global Mobility and Forward Presence: Solving the Challenges of Opening Air Bases

This edition of the Journal begins with two articles that look at different facets of mobility. In "Theater Mobility Forces: Command and Control Doctrine" the authors argue that lessons learned from history would indicate that post-conflict consolidation always will be appealing but rarely pay the expected dividends and that having a clean chain of command is a valuable tool. Organizing mobility forces can be accomplished either through a specific mission or geographical area or a combination of the two. The main lesson learned from history is that an airman in charge of the air forces is needed, but it is also important to have a commander who understands the missions of the aircraft commanded. Another lesson was that a commander in theater would be more effective. This does not negate the fact that a global view, such as TACC maintains for all strategic airlift, is not more efficient and allows for an efficient worldwide system. However, in a contingency theater, there needs to be a theater commander, much like the lesson learned from command and control of airlift during Vietnam and the Pacific theater of World War II. In "Retooling Global Mobility and Forward Presence: Solving the Challenges of Opening Air Bases" Croslen and Kwolek point out that given the US forward presence strategy and limited strategic lift capability, the key to knocking the door down (forced entry) and killing targets is the ability to achieve global reach through expeditionary basing and sustainment. Opening airbases is critical to building up forces to gain and expand the strategic initiative. Effective base opening requires the synergistic effects of applying both ground and air forces while transforming from joint interoperability to exploiting the synergy of joint interdependency. Enduring Freedom and Iraqi Freedom demonstrated the enormous capacity of the US military to establish forward locations for expeditionary operations. These operations highlighted significant areas where the United States can enhance its ability to project forces.



Theater Mobility Forces

Command and Control Doctrine



Lieutenant Colonel Robert W. Swisher, USAF
Lieutenant Colonel John F. Holly, USAF

Introduction

Special Feature

The modern era of Air Force mobility operations has evolved to the point where there is an assumption that airlift and refueling are simply functions that will be in place. The recent experiences in both Operations Enduring Freedom and Iraqi Freedom point to the fact that airlift and its abilities to place a new, lighter, more maneuverable force into a theater rapidly and support ongoing combat operations is a fact. The question remains, is US doctrine, currently being used, the best possible method for commanding and controlling this force in theater? There is always tension between effectiveness and efficiency, and with a global air mobility support system, built by the US Transportation Command (TRANSCOM), there is no doubt there is a need for efficient and effective use of air mobility assets to accomplish the intertheater mission of strategic mobility. This mission is handled internally through a large and experienced organization staffed with experts from all facets of the mobility forces, the Tanker Airlift Control Center (TACC). But the TACC does not control theater-assigned assets; therefore, the question is, how effective is the command and control of mobility air force assets for theater-assigned assets such as the deployed C-130 or KC-135 unit? The modern doctrine of deploying a joint air operations center (JAOC) and controlling all air assets from this single point has presented opportunities in integration of air assets at the theater level. Has this same mindset allowed for specific noncombat air force assets and limitations to be swept aside? Both tactical airlift and tanker assets are in the precarious position of not being a combat air force asset, yet routinely flying combat missions requiring combat air force asset support. Both assets often are required to move up into an increasingly hazardous airspace to support the battle plan and are integrated in the air operations center (AOC). Yet, the function of a single advocate with indepth training or knowledge of the system and *command authority* is missing from the current command and control doctrine.

This article highlights a phenomenon that has appeared gradually through separate iterations that have left the mobility forces, brought together by the creation of Air Mobility Command (AMC), with a direct chain of command that does not include experts in the mobility systems and draws on advisors

or directors from outside the command chain to ensure mobility operations are conducted correctly. This chain of command does not lend itself to clarity, when, in fact, there could be a simplistic chain, including the mobility expertise that current doctrine acknowledges is necessary to accomplish the mission but inserts through a director or advisor, rather than a needed level of command.

Through review of successful mobility missions and organizations, the effectiveness of the current system is evaluated. Then current doctrine, both joint and Air Force, are reviewed from a historical viewpoint because past successes should be reflected in current doctrine for mobility forces. First, if the doctrine is appropriate, there should be clarity in the chain of command from the loadmaster or boomer out flying the line to the commander in chief. The knowledge required for employing mobility forces should be internal to the command structure and not cycle on 90-day rotations. Second, the doctrine should provide clear commander and subordinate relationships and provide guidance for probable situations. Third, doctrine should provide clear control and integration of mobility forces in the joint force commander's (JFC) plan with clear designation as to who is responsible for what action, including planning and execution. There should be a clear and concise process for ensuring that mobility missions are properly tasked, planned, and executed. If this is not included in current doctrine or does not follow any of the historical examples of success, then an explanation of how the system has evolved will be explored.

A proper chain of command is required to provide the order and discipline military forces require. There is a reason there are pictures in military buildings showing the chain of command from the squadron, group or wing, depending on the building, all the way to the President of the United States. There is a responsibility in command, and a clear understanding of who is in command is never more important than when employing forces in combat. Today's expeditionary leadership model already creates turmoil within the forces, requiring airmen to work under provisional leadership for short periods. In this situation, it becomes even more important to have a clear command chain.

After a clear chain of command has been established, command relationships need to be built into the mobility chain of command. There are five basic types of airlift missions according to joint doctrine:[1] passenger and cargo movement, combat employment and sustainment, aeromedical evacuation, special operations support, and operational support airlift. Primary consideration is given to the missions of passenger and cargo movement and combat employment and sustainment airlift missions. Joint doctrine[2] also states there are six missions for refueling forces: single integrated operational plan support, global attack support, air bridge support, deployed support, theater support to combat air forces, and special operations support. The missions common to contingency and theater war support will be the emphasis for evaluating doctrine. Within these missions, there are both intratheater and intertheater assets performing these missions. In all these missions and with the separate inter- and intratheater aircraft, command relationships that ensure support and coordination at all levels are critical. An example of this command relationship would be the airlift group and wing commander's relationship with the JAOC director. As a unit tasked by the joint air operations center, the director responds directly to the authority of the joint forces air component commander (JFACC), who has operational control or tactical control of all forces. Yet, what is the feedback loop for an airlift-centric commander located 600 miles away when dealing with a generally strike-centric director? Is there clarity of the unique airlift requirements in the joint air operations center? The answer is yes, within the air mobility division or one of the several implanted planners in each cell. But should there be a concern or problem for the deployed commander of airlift forces, reference tasking, or type missions required for supporting the JFC plan, then the current chain of command extends from the group and wing commander directly to the JFACC, who normally will have little or no mobility mission knowledge. The relationships between functions and parallel levels of command need to be defined in doctrine. These relationships would vary drastically based on the size of the contingency or operation.

The stress of the increased need for airlift mobility, as the United States engaged in World War II, quickly led to overlapping and duplication of transport operations within the Army and Navy systems.

The last test for doctrine and the command chain is, does it have clear guidance for properly tasking, planning, and executing mobility missions? To accomplish this task, doctrine would clearly lay out who is responsible for accomplishment of the separate tasks involved with each of these functions. Where are mobility missions tasked in current doctrine, specifically, who will make decisions, and how will they decide which aircraft and unit will be tasked with a specific mission? Along with this obviously would be a process that would understand the different capabilities within the available aircraft in the theater. For instance, whoever makes this decision would have to know what type of defensive systems the specific unit aircraft have. If the rules of engagement call for missile defense systems, then there is a need to know who has those systems. Planning is the leg of this specific subset of test for doctrine. Doctrine should delegate the planning requirement, especially for combat missions. But more than simply delegating the planning function, doctrine should place the responsibility for the planning function at a level where the integration required in the crowded skies of today's battlespace can be accomplished. Finally, executing the

Figure 1. RQ-4A Global Hawk Over California

mission and in the execution, who will provide the oversight and command and control function for the mission, and when should that be altered? The command and control function for a brigade airdrop involving 18 aircraft would be quite different from that of a single aircraft airdrop resupply mission.

In all these tests, it is important to look to the past to ensure lessons learned are applied to today's doctrine, capitalizing on success from past mobility success and learning from previous mistakes. At times, it seems it is expedient to bypass historical lessons learned using new breakthrough technologies that slice through communication gaps and gather unheard of quantities of information. These breakthroughs obviously change the tools available to leaders. The one thing that has not changed is the human being. The instincts, needs, and reactions of today are very much the same as those evident in historic examples.

History of Airlift

History has examples of mobility operations that were shining successes and lays out the corrections made that brought those successes about. In each of the historical cases used in this article, there are good examples of how leadership decided to command, control, and execute mobility operations. The examples selected include the initial assignment and organization of airlift aircraft in the Army Air Corps, the Berlin airlift (Operation Vittles), the airlift required for Vietnam, and a review of Desert Storm. All these events will be examined specifically to the command relationships and mission orientation referencing how to incorporate both a global commitment and a theater commitment with the missions of strategic and tactical airlift. A well-organized system is required to employ effectively.

At the beginning of World War II, transport aircraft were in the Air Corps Ferrying Command under the direct command of the Chief of the Air Corps, Major General George H. Brett.[3] The stress of the increased need for airlift mobility, as the United States engaged in World War II, quickly led to overlapping and duplication of transport operations within the Army and Navy systems. The Army had separate systems grown from traditional bureaucratic methods for meeting the transportation needs. In a peacetime environment, separate systems evolved and seemed to be the best way to handle air transport. The systems were the Air Corps Ferry Command and Air Service Command (predecessor to the Air Force Materiel Command). Along with these were the Air Transport Command (ATC) (redesignated Troop Carrier Command in 1942), Air Training Command, and other branches of service with air-transport requirements that built their own transport forces. At this point, the Army Air Forces handled air transport similar to a private *corporate* air model, with each specific command owning and operating its own aircraft—a very inefficient system. There is beauty in this system, however. Transport forces were very responsive to a particular command's needs. The perceived need to have assigned aircraft rapidly meet a commander's need shaped airlift responsibilities and created a continuing debate that *owning* transport aircraft gives a local commander a decided advantage in influencing the fight. However, this system creates so much inefficiency that the system becomes ineffective, and without a large excess of airlift capability, it is not an option. General Henry "Hap" Arnold, Commanding General of the Army Air Forces, recognized that airlift demand was outstripping available airlift and, with the current uncoordinated system, took control of the

Article Highlights

The modern era of Air Force mobility operations has evolved to the point where there is an assumption that airlift and refueling are simply functions that will be in place. The recent experiences in both Operations Enduring Freedom and Iraqi Freedom point to the fact that airlift and its abilities to place a new, lighter, more maneuverable force into a theater rapidly and support ongoing combat operations is a fact. The question remains, is US doctrine, currently being used, the best possible method for commanding and controlling this force in theater?

Commanding mobility forces is not a simple task, yet, it is critically important to successful execution of combat operations. Tenoso, Desert Storm COMALF, and Brigadier General Rod Bishop are the only two people with COMALF experience during a major theater war and DIRMOBFOR experience in a large-scale contingency. Both agree on the need for a theater air mobility commander to handle theater-assigned and attached forces and provide supervision for strategic forces that transit the theater. Their modern experience is consistent with that of Vandenberg (post-World War II), LeMay (1960s), and General William Momyer (Vietnam), all of whom believed in the necessity for a theater-based commander to orchestrate theater-specific and strategic airlift as effectively as possible.

The authors' proposal: first, a change to the current DM4 doctrine eliminating the rotational function of the role and providing a permanent staff of both an airlift and tanker expert; second, phase or full implementation of the change creating the COMMOBFOR with a rank equivalent to the air operations center director, working for the JFACC and retaining the tanker and airlift deputies. This would provide greater clarity, organization, and operational effectiveness compared to the current ad hoc system, which is relying too much on luck rather than premeditated organization to be effective.

situation by creating some semblance of mission-specific allocation of airlift forces. Arnold assigned the mission of delivering all aviation technical supplies to units in the Western Hemisphere to the Air Service Command, giving them a theater and a mission within that theater. He then assigned all transport outside the Western Hemisphere and all ferry missions to the Air Corps Ferry Command.[4] This gave the Air Corps Ferry Command the *global* theater and specific mission of ferrying aircraft regardless of geographic location. The wisdom applied here cannot be denied in that there are two basic criteria for assigning responsibility for airlift missions: geographic allocation (Western Hemisphere) or mission-specific allocation (ferry mission). These obviously can be combined: (geographic) Western Hemisphere and (mission specific) aviation technical supplies.

As the war effort progressed, Arnold decided that current mission division was unsatisfactory since there was still duplication of both logistics and aircraft movement to theaters.[5] He established ATC and built two distinct divisions within it: the Ferry Division for delivery of aircraft and Air Transport Division for shipment of resources to theaters. Both divisions had a global-specific mission. ATC also operated under the direct command of Arnold. Troop carrier commands were formed and assigned to the air force commander within a theater of operations and given the charge of theater air transport, similar to current theater airlift systems. These early airlift systems kept troop carrying separate from logistical support, for good reason. Airlift aircraft were an ineffective means of transporting troops to the theater. Generally, troopships moved units to the theaters. The carrying capacity of the aircraft at that time was so low that battalion-sized troop formations would be broken into several aircraft that would, most likely, arrive at different times because of aircraft-specific en route delays, such as weather or maintenance from long trans-Atlantic and trans-Pacific flights. Therefore, these problems were addressed in the command and control organization built by Arnold. In an attempt to assemble order in the theater and keep operational equipment flowing into the theater, he kept the missions limited and used short-haul troop carrier aircraft in theater and the long-haul cargo aircraft for moving critical supplies to the theater.

Arnold also had to battle geographic commanders who tried to hijack command of assets when they transited their specific areas. The theater commander's authority had been exempted by War Department memorandums, yet several theater commanders still tried to take charge of ferrying operations and personnel in their theater.[6] This battle is similar to the one faced today by strategic airlift aircraft, which enter and leave theaters, conducting long-range lift missions and are controlled by TRANSCOM. Theater commanders believe, in some cases, they should instantly get operational control or tactical control of all forces in their theater. This would play havoc with the global mobility system the United States has in place to move cargo and people. Yet, even in this burgeoning airlift scenario, Arnold proved there is a requirement to provide both intertheater and intratheater airlift responsive to taskings. The same issues that modern mobility forces face today were faced in World War II. Arnold realized that duplication of effort was inefficient and missions should be assigned to allow for effective mission accomplishment regardless of theater commanders' wishes. He also realized that experience and infrastructure would be required to ensure success of the mobility system and would require personnel and aircraft in the theater to remain under the command of the global systems he created.

In post-World War II, the Army Air Forces had the opportunity to make changes to the airlift system and incorporate the lessons learned from operations during the war. Arnold held a strong view that ATC (AMC of today) needed to keep the intertheater mission alive and ensure that access to the bases and infrastructure critical to deployment of forces remained intact.[7] Interestingly though, a Headquarters Air Staff study conducted by Lieutenant General Hoyt S. Vandenberg suggested the breakup of ATC by instituting separate overseas and continental United States (CONUS) commands and regionally oriented troop carrier divisions for tactical aircraft. It seems that Vandenberg's study realized the large difference in an efficient global system and what was needed in a tactical theater operation. In his study, Vandenberg recommended a theater transport air service with a theater air component commander. In this command, there would be a theater air transport division and a troop carrier command to provide all tactical airlift and airborne operations.[8] This interesting study provides the majority of modern day divisions of effort and lays out the command authority in areas where they would have the greatest influence. The study proposed a system that was very similar to the successful model seen decades later in Desert Storm. However, Arnold obviously did not agree with Vandenberg's assessment; his concern was more in line with ensuring the survival of the system. In his parting advice to his replacement, General Carl Spaatz, he pushed for total consolidation, and his recommendation overrode the majority of Vandenberg's study.

Postwar transition continued when President Harry S. Truman, under Executive Order 9877, directed the Navy to give up all but essential naval air transport functions to the newly formed Air Force. In 1948, the Military Air Transport Service (MATS) was formed, combining all transport, except for "tactical air transportation of airborne troops" and did not include "resupply of forward combat areas."[9] This distinction shows that the strategic system and tactical system were viewed as very different and that the training, equipment, and leadership of tactical missions required a separate set of skills from those that would optimize strategic airlift. The MATS organization did not gain any of the tactical missions; the separation line was now placed at a *mission type*. The Troop Carrier Command handled all the tactical systems, and MATS maintained the infrastructure and command and control of the strategic system. This system is reminiscent of the move of C-130 aircraft to Air Combat Command (ACC) when AMC was formed to give the theater tactical mission to the command that provided the majority of theater tactical aircraft (ACC).

The first test of the organization of MATS was the Berlin Airlift (Operation Vittles). Vittles was as much a test of the command structure as it was a test of the actual abilities of the aircraft and crews. The operation was a United States Air Forces in Europe (USAFE) controlled operation using the multinational Combined Airlift Task Force commanded by Major General William H. Tunner, who was reassigned from his position as deputy chief of MATS. This was a colossal undertaking of maximizing tonnage delivered to Berlin to save the Berliners from starvation and to prove US resolve in the growing Cold War. The MATS Commander, Major General Laurence S. Kuter, sought Air Force

approval for his recommendation to allow MATS to be responsible for the complete operation. The USAFE Commander, Major General Curtis E. LeMay, felt there should be only one headquarters, his own. He felt that two headquarters, meaning both MATS and USAFE, would not provide unified command direction. MATS' claims were twofold. First, MATS had the experience, and second, it shouldered responsibility to the national military establishment for air transport activities. USAFE made the counterargument that MATS could not operate independent of all the USAFE support facilities, and the primary responsibility for all operations in theater rested with Commander in Chief, European Command. Kuter, the MATS Commander, commented, "We [MATS] will be destroyed if we wind up with all our resources in Vittles and the troop carriers doing the global job."[10] This statement reflects the fear of loss of mission by the MATS Commander, but it is one that even today springs to light as the discussions rage over placing our latest C-17 (C-54 then) in a theater-tasked situation. Further, what the MATS Commander stated is that control or continued control of these strategic assets can be viewed as a war of survival for the strategic airlift commander. In the end, USAFE was given operational control of the mission and MATS exercised "assignment and accountability of all C-54 aircraft," not totally losing its aircraft or being devoid of voice in the conduct of the operation. This compromise sets a dangerous dual command for diplomatic or *salving of ego* reasons that, in this case, created a convoluted command chain and required definition of just what *assignment and accountability* control is. How that aided the famous operation is unclear, but this is an early example of creating less-than-optimal command chains to accommodate politics.

meets the theater commander's intent. MATS, however, still has the global mobility mission. The Vittles example shows that theater control is extremely important for large task-force-type missions in a theater, yet disputes about the leadership of airlift forces were already beginning.

In the 1960s, airlift command and control was once again examined to ensure there were no duplicate missions or efficiencies to be gained from the system during the pre-Vietnam, limited resource timeframe. Specifically, there was a recommendation to consolidate all airlift inside MATS and rename the command Military Airlift Command (MAC), making it a specified command. Defense Secretary Robert McNamara made a statement to Congress indicating that there would no longer be a need for a troop carrier command; the new C-130E and C-141 could perform both a troop carrier role and strategic airlift interchangeably.[11] In fact, in his testimony, McNamara stated:

> It might be entirely feasible to load troops and their equipment in the United States and fly them directly to the battle area overseas, instead of moving them by strategic airlift to an assembly point and then loading them and their equipment on troop carriers.[12]

This statement was the first inkling of direct delivery and the capability of bringing strategic airlift directly into a combat theater for employment of forces. However, the Chief of Staff of the Air Force, General Curtis LeMay, did not believe consolidation of the tactical lift assets made sense and stopped the movement. He commented:

> MATS, augmented by TAC [Tactical Air Command], provides intertheater airlift for all the Defense Department, and as such, this type of mission lends itself to centralized control from the continental United States and provides the basis for consolidation of strategic airlift resources.[13]

Troop carrier commands were formed and assigned to the air force commander within a theater of operations and given the charge of theater air transport, similar to current theater airlift systems.

Having shown the initial airlift thought process and attempts at efficiency, consolidation, and command and control structures, these first attempts clearly show a few evolving principles. First is the requirement to design some way of delineating missions, if not geographic, then through the type of mission—tactical missions versus strategic missions or geographic, continental US versus European. The second issue is the whole concept of a theater and theater command structure. Theater commanders have a built-in expectation that they will need air transport to execute their mission, and they are correct. However, there still remains the global support structure, and that, too, must fit into theater airlift tasking, execution, and command and control transiting the theater, yet not under their control. In post-World War II, there is a theater air forces command whose commander holds responsibility for all operational control of facets within the theater. Further, there is a troop carrier command division responsible to the theater commander to ensure tactical airlift

LeMay stated further that intratheater airlift and battlefield mobility do not lend themselves to central continental control; it must be controlled by a command structure in the battle area.[14] These two points are important, and current aircraft technologies and abilities do not alter the truth that is clear in these statements. Strategic and theater airlift are quite separate roles, and command and control must be built to accommodate their differing roles. LeMay believed the theater commander should command all assault aircraft.

In 1966, MATS was redesignated MAC and moved into the Vietnam era as a modern force, complete with jet aircraft capable of hauling more cargo faster than ever before; in fact, a C-141 could fly to Southeast Asia in 38 hours, where a C-124 required 95 hours or 13 days to make the trip. Along with the new

capability, there were additional pushes by MAC to consolidate all airlift under the single command. However, theater commanders supported General William W. Momyer, Seventh Air Force Commander, when he stated:

> The lesson of Vietnam on airlift further enforces the same lessons of World War II and Korea on the separation of strategic and tactical air forces. Theater war demands the assignment of tactical forces that have been designed, nurtured, and led by commands devoted to this highly specialized form of warfare.[15]

The lesson was learned that the command of tactical combat support aircraft needed to come from within the theater. Throughout the Vietnam conflict, Air Force Manual 1-9, *Theater Airlift Operations,* was followed, and the principle of a single theater commander with command of assigned tactical airlift forces led to an effective tactical airlift system.

As the war progressed, there were changes made to the initial force beddown. The Pacific Air Forces' 315th Air Division managed theater airlift from Tachikawa, Japan, at the beginning of the war and later moved to Tan Son Nhut to control airlift operations.[16] An in-country airlift division, the 834th, was built that, by all accounts, solved the unresponsive and distanced command and control of tactical assets from Japan. The 834th served under the Seventh Air Force and was the Military Assistance Command Vietnam's theater airlift organization. Several separate articles have used this as proof of the need for central control of airlift forces; however, it was not a central control of all forces. A theater control organization had the capability to ensure intertheater assets were supported rapidly. Once again, the intheater need for tactical integration of intratheater airlift was a proven concept; however, the global control of strategic airlift from the CONUS with a theater ground piece proved to be the best system. Yet, once again, a post-Vietnam study was performed, and duplication was cited as waste: "the maintaining of airlift aircraft and facilities for both tactical and strategic aircraft in two separate commands" specifically referring to the fact C-130s remained in TAC.[17] This setup is always an easy target for an efficiency study. Effectiveness is a different story, and the separate mission of tactical airlift handled in theater still seems to be the best solution. This premise is supported by the TAC Director of Operations statements in 1967 after the 834th stood up in country. "There has been a marked improvement in the management of the airlift forces in Vietnam since the reorganization…ref comments of senior commanders Southeast Asia and evaluations by Department of Defense (DoD) personnel following a visit to Southeast Asia this year."[18]

In 1974, Defense Secretary Henry Schlesinger integrated all C-130 aircraft (the only remaining tactical airlift aircraft) into MAC yet left a distinction between tactical and strategic airlift in place to ensure there was still a tactical capability. Theater airlift and how command relationships would work was a separate decision.

In July 1974, MAC proposed a central point of management for operations, scheduling, and command and control in specific theaters. This would be accomplished through a designated commander of airlift forces (COMALF), dual-hatted as AMC's manager of intertheater airlift and the air force component commander (AFCC) appointed commander of all assigned theater airlift forces. This system put an airlift specialist in a command position for all assigned aircraft, ensuring all theater forces understood their chain of command extended through the COMALF to the AFCC. However, transiting strategic aircraft commanders understood the COMALF was a manager capable of providing assistance through the theater support network under the command. The second portion of the agreement was that the Airlift Control Center (ALCC) would be subordinate to the Tactical Air Control Center (TACC) in matters of airspace control and integration of the air effort.[19] This system provides a theater commander for the airlift forces. The ALCC was the single point of command to ensure all airlift functions were integrated in theater and the forces properly employed and cared for. For the AFCC, this provided a single point to refer all airlift issues to, and the ALCC was the central clearing point for airlift issues. This 1974 basic theater agreement remained in effect until 1991 (17 years), the longest standing command organization for airlift forces since their inception.

With the fall of the Soviet Union and an emphasis on rapid power projection, the decision was made to consolidate forces.

In 1987, TRANSCOM was formed, and in 1988, MAC gave up its specified command status and transferred operational control of C-141 and C-5 aircraft, along with CONUS-based C-130 aircraft, to TRANSCOM. No theater command and control changes were made; the changes had little effect on force employment. The test of this arrangement would be Desert Storm.

Desert Storm airlift forces were organized clearly. MAC transferred operational control (via TRANSCOM) to US Central Command (CENTCOM), which placed them under CENTCOM air forces, giving operational control of all airlift forces to COMALF.[20] TRANSCOM retained operational control of all strategic forces yet managed the intheater portion of its missions through the COMALF, who controlled all airlift assets and support in theater. The COMALF set up provisional units throughout the theater in a manner that created the greatest sense for the mission, logistics, and threats. Brigadier General Edwin E. Tenoso, Desert Storm COMALF, ensured that CENTCOM airlift needs were met. He commented, "These Gulf War COMALF experiences reinforced the need for an intheater airlift commander to justify basing and resources, and interfaces with the strategic airlift system and ensure readiness of the airlift force."[21] COMALF, however, was not a position that would survive the 1992 reorganization of the Air Force.

With the fall of the Soviet Union and an emphasis on rapid power projection, the decision was made to consolidate forces.[22] At this point, the common course of action throughout history has been to consolidate mobility air forces. This consolidation

places most airlift and tanker assets under one command. The rationale of this consolidation is that the combination of tanker and airlift capability would enhance the Air Force's capability for rapid global response.[23] This created AMC, and MAC was deactivated. With the addition of tankers and inclusion of two very different cultures, a new term was required for the theater commander of all these mobility forces. It was COMMOBFOR, Commander Mobility Forces. Along with the reorganization, airlift divisions were eliminated, and a central global command center was created, TACC, that, basically, would fill the need airlift divisions had been filling. Thus, with TACC's retaining operational control of all forces, the COMMOBFOR became a DIRMOBFOR—director instead of commander. The basic assumption is that all you need in theater is someone to coordinate with TACC, which is located at Scott AFB, Illinois, where both TRANSCOM and AMC are headquartered. In an interview, Lieutenant General Tenoso, the COMALF for Desert Storm, expressed his belief the move from COMALF to COMMOBFOR to DIRMOBFOR was purely political.[24] The logic stated was that without a division to command the DIRMOBFOR should only direct, but then who commands? Why had there always been a commander until this point, and where was the need going to be served? How would a director lead? Many questions in the new system begged answers.

The first question that should be answered is, when making a change like this, why remove an effective position like the COMALF, and what is driving this move? Looking from a distance, Tenoso's comment of "purely political" may have credence. At that time, AMC was standing up a large organization, TACC, that would be commanded by a brigadier general. This organization, along with worldwide communications links, would have to prove itself as a viable system. How would it interact with a commander in a theater that would control forces and en route assets? During this same period, the viability of the air operations center and the need for a single JFACC were under attack in the post-Desert Storm drawdown of forces. Another commander involved in the process seems redundant. Simply providing one senior leader to advise and coordinate airlift issues would be the direction the Air Force would take.

The problems in this concept are twofold. One, there are many issues for the DIRMOBFOR to handle. In this organization, they did not provide a staff, and second, the complexity of the issues effectively doubled by adding all the refueling assets to the group of mobility forces. During an interview, Tenoso provided insight into the subject of whether the COMALF of Desert Storm could have controlled all refueling forces in addition to the airlift forces.

> I could not possibly have done that job during Desert Storm if I had to worry about tankers. Brigadier General Caruana [Patrick P.] was responsible for all tankers in theater, and I was responsible for the entire airlift in theater. So, you had two brigadier generals with two full-time jobs and now, it is assumed, under a single DIRMOBFOR?[25]

Synopsis of Current Air Force and Air Mobility Doctrine

"Doctrine is authoritative but not directive."[26] It is this flexibility that allows the user to create an organization pliant enough to meet the challenges of military operations such as a regional conflict or theater war and all the variations in scope that fall in the category of military operations other than war (MOOTW).

However, this flexibility challenges the user's *doctrinal understanding and intent* when creating an organization to meet any of the above-listed challenges. This thought is reflected by Lieutenant General Michael C. Short, JFACC, during Operation Allied Force, who refers to the role of DIRMOBFOR/DM4 as "interesting but not reality"[27] and the claim by Rolanda Burnett that Short's air mobility division "did not reflect current doctrine."[28] One can easily argue that Short's air mobility division did reflect doctrine by virtue of the fact doctrine is authoritative but not directive.

Figures 1 and 2 illustrate air mobility doctrine through diagrams and key definitions.

Comprehension of doctrinal language is essential to understanding the relationships between forces involved in regional conflict or MOOTW. There are three command relationships:

- **Assignment.** Permanent transfer of forces.
- **Attachment.** Temporary transfer of forces in which the degree of operational control or tactical control is specified.
- **Support.** Other forces supporting a combatant commander such as other services or combatant commands. Used when neither assignment nor attachment is appropriate; these relationships are clearly defined.[31]

The military term *command* is defined in Joint Publication 1-02, *Dictionary of Military and Associated Terms,* as follows:

> The authority that a commander in the Armed Forces lawfully exercises over subordinates by virtue of rank or assignment. Command includes the authority and responsibility for effectively using available resources and for planning the employment of, organizing, directing, coordinating, and controlling military forces for the accomplishment of assigned missions. It also includes responsibility for health, welfare, morale, and discipline of assigned personnel.[32]

Doctrinally, the responsibilities and authorities of commanders vary as follows:

- **Combatant Command.** Command authority exercised only by commanders of unified or specified combatant commands unless otherwise directed by the President or Secretary of Defense. Combatant command (command authority) cannot be delegated and is the authority of a combatant commander to perform those functions of command over assigned forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction over all aspects of military operations, joint training, and logistics necessary to accomplish the missions assigned to the command. Combatant command (command authority) should be exercised through the commanders of subordinate organizations. Normally, this authority is exercised through subordinate joint force commanders and service or functional component commanders. Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions. Operational control is inherent in combatant command (command authority).

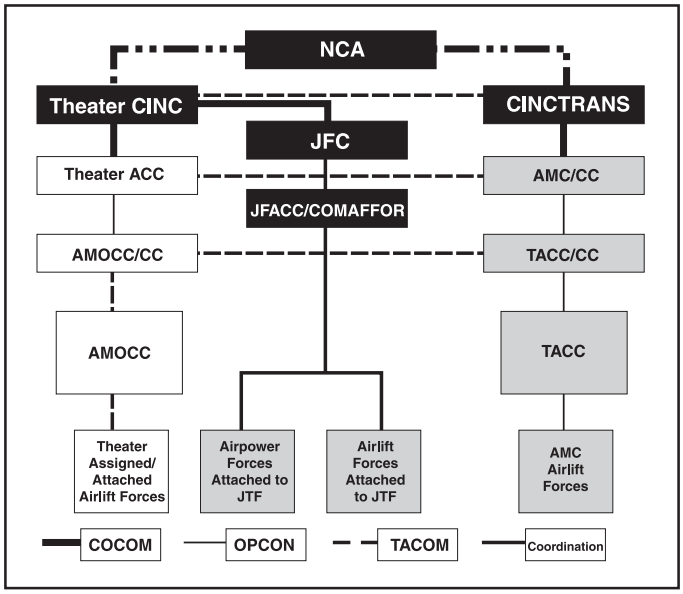


Figure 1. Command Relationships for Airlift Forces Attached to a JTF[29]

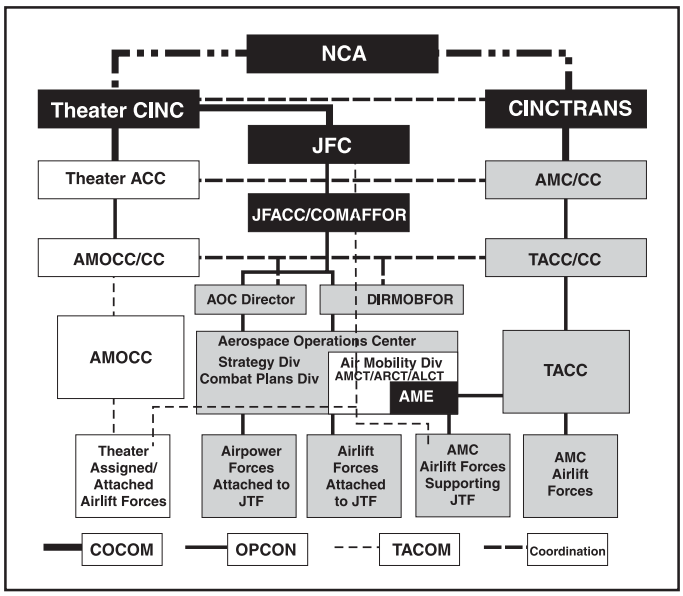


Figure 2. The JAOC and Command Relationships for Airlift Forces[30]

- **Operational Control**. Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally, this authority is exercised through subordinate joint force commanders and service or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training.
- **Tactical Control.** Command authority over assigned or attached forces or commands or military capability or forces made available for tasking; that is, limited to detailed, usually local, direction and control of movements or maneuvers necessary to accomplish missions or tasks assigned. Tactical control is inherent in operational control. Tactical control may be delegated to and exercised at any level at or below the level of combatant command.
- **Administrative Control.** Direction or exercise of authority over subordinate or other organizations in respect to administration and support, including organization of service forces, control of resources and equipment, personnel management, unit logistics, individual and unit training, readiness, mobilization, demobilization, discipline, and other matters not included in the operational missions of the subordinates or other organizations.
- **Apportionment (Air)**. The determination and assignment of the total expected air effort by percentage or by priority that should be devoted to the various air operations and geographic areas for a given period of time.
- **Coordinating Authority.** A commander or individual assigned responsibility for coordinating specific functions or activities involving forces of two or more military departments or two or more forces of the same service. The commander or individual has the authority to require consultation between the agencies involved but does not have authority to compel agreement. In the event essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised. Coordinating authority is more applicable to planning and similar activities than operations.
- **Support.** Responsibility and authority to aid, assist, protect, or sustain another organization. Such relationships between combatant commands are usually established by the Secretary of Defense.[33]

The joint task force creation, if it has Air Force forces, will lead to COMAFFOR appointment. The COMAFFOR can—but not necessarily—be dual hated as JFACC. JFACC appointment is at the discretion of the joint task force commander and usually signals the presence of substantial joint air involvement. The service with the preponderance of assets normally would assume the role of JFACC. For this discussion, it is assumed that it is an Air Force JFACC. The depth and scope of the operation normally mandate whether or not separate persons are required. As reflected in their titles, both have command authority. COMAFFOR/JFACC conducts operations through the joint air operations center.

> The JAOC is the aerospace operations planning and execution focal point for the JTF and is where centralized planning, direction, control, and coordination of aerospace operations occur for which the COMMAFFOR/JFACC has operational control/tactical control.[34]

The joint air operations center expresses the will of the COMAFFOR/JFACC through the air tasking order (ATO) and is the single point of contact for ATO planning, coordination, and execution. At this point, doctrine suggests a divergence for combat and mobility assets (tankers, airlift). It is here that the controversial role of DIRMOBFOR DM4 comes into view. Air Force Doctrine Document (AFDD) 2-6.1 describes the DM4 as follows:

> To further assist in the employment of airlift forces, the JFC through the air component commander may establish a DIRMOBFOR to function as the coordinating authority for air mobility with all commands and agencies, both internal and external to the JTF. Additionally, when designated, the DIRMOBFOR will ensure the effective integration of intertheater and intratheater airlift operations and ease the conduct of intratheater operations.[35]

> The DIRMOBFOR may be operationally tasked by the JFACC, but he is under the command of the COMMAFOR.[36]

> The DIRMOBFOR provides direction to the AMD while being responsive to the AOC director. DIRMOBFOR will serve as principle interface between the Theater Logistics Directorate (J4) and Theater Joint Movement Center (JMC) to ensure prioritization of airlift tasks against requirements and capabilities.[37]

DM4 has coordination but no command authority. Specific to the issue of mission planning, it is the theater air mobility operations control center (if one exists) or air operations center that executes theater airlift support for all assets assigned, attached, or made available for tasking by the geographic combatant commander or joint task force commander. More specifically, it is the AMD function of the air operations center that executes assigned and attached intratheater airlift in the joint task force/joint operations area/area of responsibility. Another example of flexibility or confusion would be the C-17 airdrop of Army forces north of Baghdad in Iraqi Freedom. Operational control remained with TRANSCOM while tactical control was exercised through the CENTCOM CFACC even though the mission was launched in another theater (the European Command).

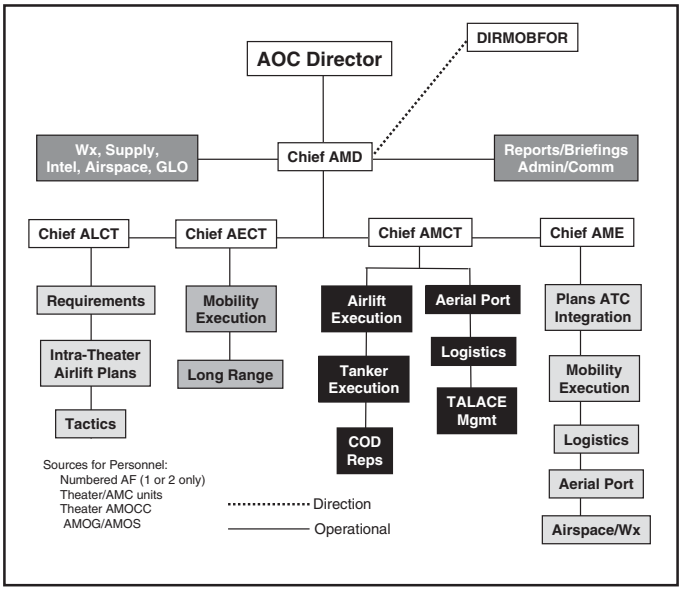


Figure 3. Notional AMD Airlift

The DM4 resides within the air operations center but is not a part of it. The DM4's focus is on the air mobility division that consists of:

- Air mobility control team, centralized air mobility C2; ATO execution;
- Airlift control team, theater mobility air tasking order, and airlift planning;
- Aeromedical evacuation control team, which integrates aeromedical assets and coordinates airlift to meet theater aeromedical evacuation requirements;
- Air-refueling control team, air-refueling support for theater air operations, and the strategic air bridge; and
- Air mobility element, AMC TACC liaison element in the joint air operations center, which integrates strategic and theater airlift requirements.[38]

While the air mobility element resides within the air mobility division, the DM4 has only a coordination relationship with the air mobility element because it works directly for TACC (Figure 3).[39]

Combatant command (command authority) provides full authority to organize and employ commands and forces as the combatant commander considers necessary to accomplish assigned missions.

The DM4's relationship to the air operations center director is best defined as direct liaison authorized: authority to directly coordinate or consult an action with a commander or agency within or outside the granting command. Direct liaison authorized is a coordination relationship, not an authority through which command may be exercised.[40] Coordination with the air operations center director and air mobility element is the responsibility of the DM4. Because of the nature and global reach of mobility forces, one of the DM4's main goals is effective coordination of intratheater (within the theater) and intertheater (between theaters) mobility missions and forces. This coordination is essential to bridge the *seam* between intertheater and intratheater airlift controlled by various commands and effectively orchestrate these assets with the combatant commander's mission and intent.

Critical Analysis of Current Doctrine

- Chapter 2 of Joint Publication 3-17 suggests that mobility planners and operators have the critical knowledge of

command relationships and control associated with the employment of US forces. This understanding is emphasized with the knowledge the JFACC may set up an organization unique to the situation or simply as desired. Mobility leaders and followers must have a grasp of the *theory of how it should be* and *what it really is,* all while facing the challenges of military operations that span intertheater, intratheater, and joint task force and joint operations area-specific operations. Are we flexible to the point of confusion?

- Referring to the *coordination authority* of the DM4, the role of mobility leadership, as currently illustrated in joint and Air Force doctrine, seems to be a role responsive to the organization that the joint force commander has created to face a regional conflict or MOOTW. It is not a leadership role responsive to the needs and setting the course of the mobility forces represented. Given the diverse responsibilities, the DM4's current existence reflects the axiom *responsibility without authority,* an axiom historically ridiculed in military leadership and management theory.
- Joint Publication 3-17 states, "DM4's focus is on the air mobility division and its primary components." Focus is not defined in Joint Publication 1-02, *DoD Dictionary of Military and Associated Terms.* Is this relationship too weak to be effective?
- Why does the DM4 work for the COMAFFOR and not the JFACC by whom currently tasked?
- As pointed out by Major Ted Carter, "AFDD 2-6 does not address completely the role of DM4 in support of MOOTW with multiple joint task forces, as was encountered during Allied Force. Is the DM4 a theater person or a joint task force person? According to an authoritative source in the Air Force Doctrine Center, this is still an issue "in discussion and in need of clarification."[41]
- The current structure does acknowledge the need for mobility expertise by virtue of the DM4's existence. But the DM4 still lacks the breadth of experience to handle tanker versus airlift issues. Can a tanker crewmember acting as the DM4 really pass judgment on the feasibility of a planned night airland to a dirt strip under night-vision goggle conditions? In Desert Storm, there were two separate individuals working tanker and airlift issues. Tenoso handled the COMALF duties while Caruana was responsible for all tankers in theater. If two separate specialists were necessary then, why not now?

Recommendations

From the first iterations of using aircraft for mobility purposes, to recent high-tech combat operations, the need for airlift and air refueling has grown. In reviewing current doctrine and building the required measures for effective command and control of mobility assets, we must first review what the criteria were that the recommendations flow from.

- If the doctrine is appropriate, there should be the clarity and expertise required to employ forces in the chain of command. Everyone, from the loadmaster or boomer out flying the line to the commander in chief, should understand the chain and everyone making critical (command) decisions in it.
- The doctrine should provide clear commander and subordinate relationships and guidance for probable situations. No assumptions as to roles or responsibilities, there should be clarity and usage of common, jointly defined terminology for command relationships.
- Doctrine should provide clear control and integration of mobility forces in a force command plan with clear designation as to who is responsible for what action, including planning and execution. There should be a clear and concise process for ensuring that mobility missions are tasked, planned, and executed properly.

The first suggestion, a clear chain of command, is poorly indicated in current doctrine in that, although doctrine depicts all the air assets being commanded by the JFACC, in reality, the span of control of the JFACC is usually far too broad when mobility forces are included. Tenoso's comments that the addition of the tanker force to COMALF's responsibilities would have made his job impossible is a telling statement as to the amount of effort required to run the complete package of mobility forces in theater.

A more current example of the complexity of airlift operations is from Enduring Freedom and Iraqi Freedom. Figure 4 indicates a robust, management-heavy staff. Yet, Brigadier General Bernard J. Pieczynski spoke of 14-hour days, 7 days a week, for numerous consecutive months (Figure 4).[42]

Pieczynski also indicated how great the responsibilities were in the airlift arena and how this dominated the bulk of the air mobility division director's time. In the above-illustrated structure, the senior tanker person was an 0-5 (at most). While no substantial tanker issues arose regarding management of tanker assets, most likely this was because of Pieczynski's personal interface with the senior tanker person and air operations center director. While not a tanker person by experience, Pieczynski has extensive tactical and strategic airlift expertise. This vast operational background and effective management skills were sufficient in this situation.

America's military is brilliant in its execution of warfare at a lightning fast pace. In Iraqi Freedom, we even surprised ourselves at how quickly combat forces could advance. The current record suggests we were well inside the Iraqi Observe, Orient, Decide, Act (OODA) loop. Does this blistering pace threaten to get inside our own OODA loop?

After reviewing all evidence, there seemed to be two possible courses of action, each one creating varying amounts of change. These two actions, which build on each other, would create the best mobility command structure for the future. The options are:

- Improving the DM4 position, to include making the position report to the JFACC Commander, and making it a permanent position with a permanent set of airlift and tanker deputies.
- Giving command authority to the DM4, making him a COMMOBFOR, along with the improvements from the central operating authority, one above.

Option one would end the rotational DM4 disturbance that is currently the way we are manning the DM4 position. With an assigned DM4, the relationship between JFACC and DM4 would be stronger. Training time could be longer and spent more effectively because there would be no need for the large number of DM4s currently required. The corporate knowledge lost each time a DM4 rotates out of theater is a drain on theater operations. If DM4s stayed in place longer, they could build, evaluate, and

make minor corrections to policies rather than have the limited effect of 90 days in theater.

Based on the very different experience and knowledge required for ensuring that airlift and tanker operations were optimized, there would be a requirement for a deputy responsible for each mission. This in-country expert team of DIRMOBFOR, deputy DIRMOBFOR for airlift, and deputy DIRMOBFOR for tanker operations would give the JFACC a functioning, long-term staff that would handle all mobility functions, from start to finish, of the contingency and add the recent operational expertise needed. Current doctrine does not build this expert system that could have mitigated some of the tanker-specific problems that arose during Allied Force. The Allied Force combined air operations training (CAOC) had an air mobility division staff composed of officers who had tanker experience, but not all of it was recent. One individual was from Headquarters Air Training and Education Command. Another was a T-47 pilot; still another was an Air Force academy professor who had not flown in years. Questions regarding Allied Force tanker operations ran rampant throughout the AMC chain of command until a suitable tanker expert was agreed upon and placed on staff.[43]

To improve the command chain, the second phase of change would be to create a COMMOBFOR. This position would be a brigadier general, and the staff would still have the two deputies, one for airlift and one for refueling operations. This would not provide a director but a single individual with command authority. In this position, the COMMOBFOR would provide a single entity to be responsive to not just the joint force commander or JFACC's requests but to individual service issues or specific ground force commanders. During rapid-moving combat and planning prior to the movement, someone needs to ensure all mobility assets are orchestrated among the separate ground and air plans. Lieutenant General William S. Wallace, Commanding General V Corp, in an interview discussing airlift resources during Iraqi Freedom, stated that although they (Army Engineers) opened a landing zone near his headquarters, it was never used. This is the kind of disconnect that a COMMOBFOR could have prevented by giving the commander of V Corp a specific person to obtain this information from. Under current doctrine, a DM4 could provide the same answer to the Army commander that a COMMOBFOR could give. However, the 90-day rotational DM4 would not have had the experience of building the plan of support to start out with and would not be held to the same accountability a commander would have. Providing a shaping COMMOBFOR, who would remain in place for the duration of the contingency, would mitigate this type of problem.

The current 90-day rotations of DM4s and turnover rate do make it hard for any one commander to shape the forces and policies in place and give that person limited knowledge of how current policies originated. Interviews with staff officers in the CENTCOM CAOC indicate new DM4s generally can grasp the current situation quickly; however, when one considers the rapidly changing rules of engagement and policies for aircraft in theater, it seems a stabilizing COMMOBFOR could remove frustration from the deployed troops. The troops would have a name to associate with the mobility commander and quite possibly a face.

Currently, the way contingencies are executed by rotating forces through the theater creates an even deeper need for a group

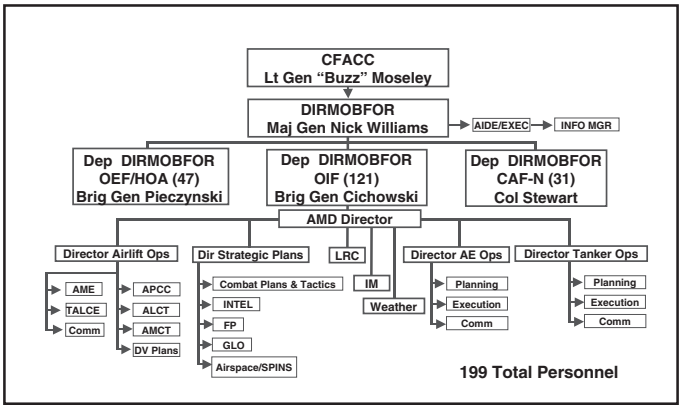


Figure 4. CENTCOM DIRMOBFOR

of forces that are organized into one genre of the Air Force and a need to have a long-serving commander in place. Groupings, such as the Air Mobility Warfare Center, organized to cover all mobility aircraft, indicate that the Air Force has decided this is a compatible group with enough in common that the Air Force will manage them as one body.

The obvious question then would be, why not a combat air force commander? The combat air forces are truly embedded in the air operations center system, and generally, the JFACC and air operations center director are combat air force officers. In reality, the majority of the focus is on combat air force assets within the air operations center system, and rightly so. What a COMMOBFOR would do for the combat air force-centric air operations center is give them a central point for ensuring that mobility forces are being led and optimized by someone with a commander's focus, beyond the air operations center, who is ensuring they are being effectively utilized. An interesting part of the COMMOBFOR would be working the reserve component issues of the Air Force Reserve Command and National Guard assets that normally make up more than half the strategic and tactical airlift assets in the Air Force. Keeping a COMMOBFOR with a working knowledge of these forces and special issues involving the reserve component would aid the total force fight. The addition of a COMMOBFOR would not take the mobility forces away from the JFACC; the JFACC would now have a COMMOBFOR working directly for the JFACC, instead of for the AFFOR (which is generally, but not always, the same person).

The next criteria provide clear commander and subordinate relationships and guidance for probable situations. Doctrine, as currently written, does not build a solid case for clarity of relationships. The current DM4 has coordinating authority with the AMD section of the air operations center as the focus. However, neither of these terms provides a clear or concise relationship. The definition of coordinating authority is an authority generally used for planning, not operations. The change to adopting a COMMOBFOR would provide clarity in the relationships and command structure of deployed forces.

The final test of current doctrine is that it should provide clear control and integration of mobility forces in the joint force commander's plan, with clear designation as to who is responsible for what action, including planning and execution. There should be a clear and concise process for ensuring that mobility missions are properly tasked, planned, and executed. This is the goal of the current system, and great steps have been made to blend

processes and planning staffs to accomplish this task effectively. The integration of mobility forces under the air operations center system of planning and executing an air campaign exceeds any level of previous integration. However, the expertise to ensure mobility assets and missions are used effectively during contingency operations is a strident effort. The current rotational DM4 model is not the optimum when the JFACC and air operations center director remain in place for the duration of the conflict. Furthermore, having two deputies selected for their recent knowledge of airlift and tanker expertise to ensure proper employment with the right mix of forces and expertise in theater would only improve the system.

The creation of the COMMOBFOR is a win-win situation. The mobility forces get a commander to execute the war and lead them in the contingency. The JFACC gets a senior commander for the duration of the conflict to handle all mobility issues legally, unlike the current defacto assignment to the DM4. There is a small price to pay in hiring the two deputies, but this is well worth the benefits derived from this change. The command lines are correct, showing the proper supervision and accountability: JFACC, COMMOBFOR, provisional wing, group, and squadron. This seems to not make much of a change, just adding the COMMOBFOR between the wing and group-level command and the JFACC. What this does is build into existence a relationship that commonly has been in most organizations throughout the history of air mobility operations. Yet, much like the conflict that happened between LeMay, the USAFE Commander, and Kuter, the MATS Commander, the decision on who should command mobility forces can become a political one and, at times of limited resources such as this, be seen as a battle for survival.

If the recommendation to create a COMMOBFOR is viewed as a threat by the JFACC or the air operations center director or even AMC's TACC leadership, then the decision becomes more of a political turf battle, and power, not effectiveness, will make the decision. But if the decision is made based on the COMMOBFOR construct's ability to create effective mobility command and control while maintaining integration and ensuring the joint force commander, through the JFACC, has a commander responsive to the needs, then the COMMOBFOR position is a wise solution.

Conclusion

The lessons learned from history would indicate that post-conflict consolidation always will be appealing but rarely pay the expected dividends and that having a clean chain of command is a valuable tool. Organizing mobility forces can be accomplished either through a specific mission or geographical area or a combination of the two. The main lesson learned from history is that an airman in charge of the air forces is needed, but it is also important to have a commander who understands the missions of the aircraft commanded. Another lesson was that a commander in theater would be more effective. This does not negate the fact that a global view, such as TACC maintains of all strategic airlift, is not more efficient and allows for an efficient worldwide system. However, in a contingency theater, there needs to be a theater commander, much like the lesson learned from command and control of airlift during Vietnam and the Pacific theater of World War II.

Commanding mobility forces is not a simple task, yet, it is critically important to successful execution of combat operations. Tenoso, Desert Storm COMALF, and Brigadier General Rod Bishop are the only two people with COMALF experience during a major theater war and DIRMOBFOR experience in a large-scale contingency. Both agree on the need for a theater air mobility commander to handle theater-assigned and attached forces and provide supervision for strategic forces that transit the theater.[44] Their modern experience is consistent with that of Vandenberg (post-World War II), LeMay (1960s), and General William Momyer (Vietnam), all of whom believed in the necessity for a theater-based commander to orchestrate theater-specific and strategic airlift as effectively as possible.

Recommendations were reflected accurately in the successful COMALF experience of Desert Storm; so why the change to a director from a commander? Was this change a political one, as we have suggested, or was it somehow made in the name of efficiency? While always desirable and acknowledging, it can lead to greater effectiveness. Efficiency must be balanced carefully against the need for effectiveness in a combat theater.

New weapon systems, tactics, and operational requirements often mandate the need for different management practices from those used in the past. As asked earlier, can a DM4 with an exclusively tanker background really decide on the suitability of a C-130 night-vision goggle/dirt airland mission? Likewise, can a DM4 airlifter make the call on how close or beyond the forward edge of battle area a KC-135 flight should proceed to support a strike or search-and-rescue package?

Hence, our proposal: first, a change to the current DM4 doctrine eliminating the rotational function of the role and providing a permanent staff of both an airlift and tanker expert; second, phase or full implementation of the change creating the COMMOBFOR with a rank equivalent to the air operations center director, working for the JFACC and retaining the tanker and airlift deputies. This would provide greater clarity, organization, and operational effectiveness compared to the current ad hoc system, which is relying too much on luck rather than premeditated organization to be effective.

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Logistics Stuff—Five Things to Consider

- The operations/logistics partnership is a target for our enemy—protect it. We always must try to think of an enemy's looking for the decisive points in the partnership. What we want to make strong, they will try to weaken. Where we want agility, they will want to paralyse us. What we can do to our enemy, we can do to ourselves by lack of attention. So all concerned with operations and logistics must protect and care for the partnership and the things it needs for success. This includes *stuff,* information, and people. Also, we must not forget the corollary is just as important: the operations/logistics partnership of the enemy is a target for us; we must attack it.
- Think about the physics. Stuff is heavy, and it fills space. Anything we want to do needs to take account of the weight that will have to be moved, over what distance, with what effort. Usually this all comes down to time, a delay between the idea and the act. If we think about the physics we can know the earliest time, we can finish any task, and we can separate the possible from the impossible. It is crucial to determine the scope of the physical logistics task early in any planning process. Planners must know how long things take and why they take that long.
- Think about what needs to be done and when—and tell everybody. Once we have given instructions and the stuff is in the pipeline, it will fill that space until it emerges at the other end. The goal is to make sure that the stuff coming out of the pipe is exactly what is needed at that point in the operation. If it is not, then we have lost an opportunity—useless stuff is doubly useless, useless in itself and wasting space and effort and time. Moving useless stuff delays operations. Also, priority of order of arrival will change with conditions and with the nature of the force deploying. For example, the political need to show a presence quickly may lead a commander to take the risk of using the first air transport sorties to get aircraft turn-round crews and weapons into theatre before deploying all the force protection elements.
- Think about defining useful packages of stuff. Stuff is only useful when all the pieces to complete the jigsaw are assembled. Until the last piece arrives, there is nothing but something complicated with a hole in it. It is vital to know exactly what is needed to make a useful contribution to the operational goals and to manage effort to complete unfinished jigsaws, not simply to start more. Useful stuff often has a sell-by date. If it arrives too late, it has no value, and the effort expended has been wasted. The sell-by date must be clear to everyone who is helping build the jigsaw. And it is important to work on the right jigsaw first. In any operation, there is a need to relate stuff in the pipelines to joint operational goals, not to single-service or single-unit priorities. It is no good having all the tanks serviceable if the force cannot get enough aircraft armed and ready to provide air cover or ensuring that the bomber wing gets priority at the expense of its supporting aircraft.
- Think about what has already been started. The length of a pipeline is measured in time not distance. There will always be a lag in the system, and it is important to remember what has already been set up to happen later. Constantly changing instructions can waste a lot of energy just moving stuff around to no real purpose. Poorly conceived interventions driven by narrow understanding of local and transitory pain can generate instability and failure in the system.

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